What is claimed is:

1. A contact material containing 10% by volume or more a metal alloy phase having a composition range which causes an order-disorder transition.

2. A contact material according to Claim 1, wherein said metal alloy phase is a Fe base alloy phase containing at least one element selected from the group consisting of Al, Si, Co and Ni.

3. A contact material according to Claim 2, wherein said Fe base alloy phase contains Fe as a chief component and at least 5 to 30 wt% Al.

4. A contact material according to Claim 2, wherein said Fe base alloy phase contains Fe as a chief component and at least 5 to 15 wt% Si.

5. A contact material according to Claim 2, wherein said Fe base alloy phase contains Fe as a chief component and at least 5 to 20 wt% Al and Si.

6. A contact material according to any one of Claims 2 to 5, wherein said Fe base alloy phase contains at least one element selected from the group consisting of Co and Ni in an amount of 5 to 40 wt% and has a hardness of Hv 300 to 800.

7. A contact material according to any one of Claims 2 to 5, wherein said Fe base alloy phase has an order-disorder transition temperature and/or magnetic transition temperature of 200°C to 900°C.

8. A contact material according to any one of Claims 2 to 5, which contains at least 10 to 90 wt% Cu and in which the Fe base

alloy phase and a Cu alloy phase are dispersed in an amount of 10% by volume or more within the structure of the contact material.

9. A contact material according to Claim 8, which is composed of at least two phases which are a Fe base phase causing an order-disorder transition and a Cu base phase containing Cu as a chief component, the Cu base phase being comprised of the (alpha + beta) phase and/or beta phase shown in the Cu-Al phase diagram.

10. A contact material according to Claim 9, the porosity of which is adjusted to be 5 to 35% by volume.

11. A contact material according to Claim 10, further comprising one or more elements selected from the group consisting of Sn, P, Ti and Mn in an amount of from 0.1 to 10 wt%.

12. A contact material according to Claim 11, further comprising one or more elements selected from the group consisting of elements such as C, Cr, Pb, Zn, Be, Mo, W, Mg and Ag; solid lubricants such as graphite, MnS and $CaFe_2$; and hard dispersion materials such as ceramics.

13. A composite sintered contact component, wherein a sintered contact material, containing 10% by volume or more a Fe base alloy phase having a composition range which causes an order-disorder transition, is integrated with a sheet-like, cylindrical or substantially cylindrical backing made from an iron base material.

14. A composite sintered contact component according to Claim 13, wherein said sintered contact material is sinter-bonded to the backing in independently dispersed island form in an amount of 30 to 70% by area with respect to the area of the backing, and

recesses formed between the independent islands of the contact material are filled with grease or a solid lubricant while the contact material is sliding.

15. A composite sintered contact component according to Claim 13, wherein said sintered contact material is holed, making independent recesses in an amount of 30 to 70% by area with respect to the area of the backing and sinter-bonded to the backing, and the independent recesses are filled with grease or a solid lubricant while the contact material is sliding.

16. A composite sintered contact component according to Claim 13, wherein reservoir grooves for lubricating oil are preformed in the joint surface of the backing.

17. A composite sintered contact component according to Claim 13, wherein the iron base material of the backing has a porosity of 5 to 30% by volume so that the backing portion of the component also retains oil.

18. A composite sintered contact component according to any one of Claims 13 to 17, wherein said sintered contact material is sinter-bonded to the backing through a third insert material.

19. A composite sintered contact component according to any one of Claims 13 to 17, wherein the backing is provided with a collar so as to slide when it is subjected to a thrust load and a wear-resistant material or contact material is integrated with the sliding contact surface of the collar.

20. A composite sintered contact component according to Claim 19, wherein said wear-resistant material or contact material is

one selected from the group consisting of hard metals, stellite, iron base wear-resistant materials, ceramics and wear-resistant Cu infiltrated materials and is integrated by one means selected from thermal spraying, brazing, sinter-bonding, infiltration and adhesion.

21. A method for producing a composite sintered contact component by integrating a sintered contact material with a cylindrical or substantially cylindrical backing, the sintered contact material having 10% by volume or more a Fe base alloy phase which causes an order-disorder transition, the backing being made from an iron base material,

wherein the sintered contact material contains metallic Al which causes expansion of the sintered contact material and 10 to 70 wt% Cu which is used as an element for generating a liquid phase within a high temperature zone to ensure sinter strength and sinter bondability,

wherein a compact made from the sintered contact material is a cylindrical component having an outer diameter equal to or slightly smaller than the inner diameter of the backing, and

wherein when the cylindrical component is heated to 900° C or more, being inserted into the backing, (a) the sintered contact material is expanded by heating at a temperature of 800° C or more for a specified period of time and bonded to the backing by utilizing a Cu base alloy liquid phase which has been generated at the expansion temperature, and (b) the sintered contact material is further heated at a temperature of 900° C or more thereby generating more Cu base alloy liquid phase to compact the sintered

contact material.

22. A composite sintered contact component producing method according to Claim 21,

wherein a third insert material is interposed between the cylindrical or substantially cylindrical backing made from an iron base material and the cylindrical compact made from the sintered contact material and having an outer diameter slightly smaller than the inner diameter of the backing, whereby a liquid phase component is generated which is useful for bonding the sintered contact material to the backing when heating the sintered contact material at 800° C or more so as to be expanded.

23. A composite sintered contact component producing method according to Claim 22, wherein said third insert material is adjusted such that the whole of it does not become a liquid phase at said bonding temperature and is an alloy material containing Sn and Cu which exhibit excellent wettability with respect to said iron base material.

24. A composite sintered contact component producing method according to Claim 21 or 22, wherein the backing is provided with a collar and a wear-resistant material or the sintered contact material is integrated with the sliding contact surface of the collar by one means selected from brazing, sinter-bonding and infiltration, simultaneously with the integration of the backing.

25. A composite sintered contact component producing method according to Claim 24, wherein a high-carbon, high-Cr base alloy sintered material containing at least 1.5 to 3.5 wt% carbon and

5 to 17 wt% Cr is sinter-bonded to the sliding contact surface of the collar simultaneously with the integration of the wear-resistant material or the sintered contact material.

26. A method for producing a composite sintered contact component by integrating a sintered contact material with a sheet-like backing made from an iron base material, the sintered contact material containing 10% by volume or more a Fe base alloy phase which causes an order-disorder transition,

wherein the sintered contact material contains the Fe base alloy phase which causes an order-disorder transition and at least 10 to 70 wt% Cu and 3 to 10 wt% Sn which serve as elements for generating a liquid phase within a high temperature zone to ensure sinter strength and sinter-bondability, and

wherein a powder blend for producing the sintered contact material is dispersed onto the surface of the backing, and after sintering in a neutral, reduced or vacuum atmosphere, a sintered layer formed on the backing is compressed with a rolling mill or a press and then subjected to a re-sintering process at least once in the neutral, reduced or vacuum atmosphere, whereby sinter-bonding is carried out.

27. A composite sintered contact component producing method according to Claim 26, in which the composite sintered contact component is formed into a cylindrical or substantially cylindrical shape by rounding after the sinter-bonding process.